

NUCLEIC ACID MOLECULES ENCODING HUMAN SECRETED  
HEMOPEXIN-RELATED PROTEINS

~~ISOLATED HUMAN SECRETED PROTEINS, NUCLEIC ACID MOLECULES  
ENCODING HUMAN SECRETED PROTEINS, AND USES THEREOF~~

**FIELD OF THE INVENTION**

5 The present invention is in the field of secreted proteins that are related to the hemopexin subfamily, recombinant DNA molecules, and protein production. The present invention specifically provides novel peptides and proteins that effect protein phosphorylation and nucleic acid molecules encoding such peptide and protein molecules, all of which are useful in the development of human therapeutics and diagnostic compositions and methods.

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**BACKGROUND OF THE INVENTION**

Secreted Proteins

Many human proteins serve as pharmaceutically active compounds. Several classes of human proteins that serve as such active compounds include hormones, cytokines, cell growth factors, and cell differentiation factors. Most proteins that can be used as a pharmaceutically active compound fall within the family of secreted proteins. It is, therefore, important in developing new pharmaceutical compounds to identify secreted proteins that can be tested for activity in a variety of animal models. The present invention advances the state of the art by providing many novel human secreted proteins.

20 Secreted proteins are generally produced within cells at rough endoplasmic reticulum, are then exported to the golgi complex, and then move to secretory vesicles or granules, where they are secreted to the exterior of the cell via exocytosis.

Secreted proteins are particularly useful as diagnostic markers. Many secreted proteins are found, and can easily be measured, in serum. For example, a 'signal sequence trap' technique 25 can often be utilized because many secreted proteins, such as certain secretory breast cancer proteins, contain a molecular signal sequence for cellular export. Additionally, antibodies against particular secreted serum proteins can serve as potential diagnostic agents, such as for diagnosing cancer.